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Names and Address must accompany all letters or no attention will be paid thereto. This is for our information and not for publication.

References to former articles or answers should give date of paper and page or number of question.

Inquiries not answered in reasonable time should be repeated: correspondents will bear in mind that some answers require not a little research, and, though we endeavor to reply to all either by letter or in this department, each must take his turn.

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(7900) F. R. A. says: I have noticed in your description of marine engines that they are 4 cylinder triple expansion in some cases. Now, what is the arrangement of the cylinders so that there are 4? A. The compounding of marine engines may vary in the number of cylinders to meet constructive economy. A triple expansion engine with 4 cylinders is usually made with one high pressure cylinder, one intermediate and two low pressure cylinders. A quadruple expansion engine may have one high pressure and two each of intermediate and low pressure.

(7901) O. Y. asks: What is the difference, if any, in the use of fuel with a 200 horse power steam engine, requiring to produce only one-half its capacity. A. Much depends upon the kind of engine, whether condensing or not and upon the type of engine. There are constants of loss that continue the same with steam engines at full and half power. Radiation and condensation from the surfaces of boiler setting and in steam pipes remain nearly the same under both conditions. The friction of the engine is also nearly the same under varying loads. The steam generating power of the boiler, being larger in proportion to the amount of steam used at half power of the engine should save part of the heat going up the chimney and therefore should save fuel. The amount of steam saved will not be one-half, but a proportion covering the losses by radiation, condensation and engine friction. For a power-plant as stated we estimate that one-third of the fuel should be saved when running at half power.

(7902) S. Bros. write: We wish to make power to drive a small printing press (about one horse power). We thought of winding up a weight. Have you anything on this subject showing how to make it, or any other method of getting power that is simple and inexpensive? A. Spring power was quite a fad among inventors some years since and various methods and applications for storing power by springs, have been published in the SCIENTIFIC AMERICAN SUPPLEMENT, Nos. 46, 47, 48, 50 and 473, which we mail at 10 cents each. A few spring motors are now made for fans and show window turn tables, and have been made for running sewing machines. They do not give out the amount of power required to wind them up, and when as much as one horse power or more is required we consider this method of accumulating power impractical and inefficient, whether by spring or weight. We advise the use of a gas or gasoline motor for driving a printing press or for any other use where a small and reliable power is needed. They are made of one, one and a half and up to any required power, are easy to manage and the cheapest small power known. See advertisements of these motors in our advertising columns.

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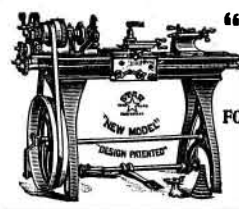

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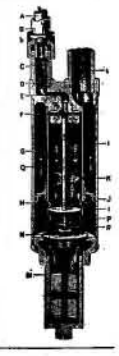
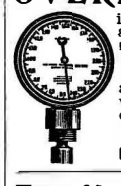


OVERHEATED BOILERS



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